

## CLAIMS

What is claimed is:

- Mark G.*
1. A method of treating water with ozone comprising:
    - a) directing water from a pressurized water supply to an ozone treatment tank;
    - b) maintaining the ozone treatment tank at a pressure greater than atmospheric pressure;
    - c) circulating water from the pressurized ozone tank to an ozone injector and injecting ozone into the injector and mixing the ozone with the recirculating water to form a water-ozone mixture and returning the water-ozone mixture to the pressurized ozone treatment tank; and
    - d) directing the ozone treated water from the pressurized ozone treatment tank.
  2. The method of claim 1 including boosting the pressure of the water recirculated from the ozone tank to the injector prior to the water passing through the injector such that the pressure of the water being directed to the injector exceeds the pressure of the water in the ozone treatment tank.

*23* The method of claim 1 including boosting the pressure of the recirculating water on the inlet side of the injector so as to create a pressure

differential across the injector so as to increase the efficiency of mixing the ozone with the recirculating water.

*34.* The method of claim ~~3~~<sup>2</sup> including utilizing a booster pump between the ozone treatment tank and the injector, and pumping water from the ozone treatment tank through the booster pump and boosting the pressure of the water prior to the water being directed into the injector.

*45.* The method of claim ~~4~~<sup>3</sup> including the step of boosting the pressure of the water directed into the inlet side of the injector to a pressure level that exceeds the pressure level of the water in the ozone treatment tank by at least approximately 15%.

*6.* The method of claim 5 including sensing the flow of water being directed from the pressurized water source to the ozone treatment tank and actuating the booster pump in response to the flow of water from the pressurized water source into the ozone tank.

*7.* The method of claim ~~6~~<sup>5</sup> including actuating an ozone generator in response to the flow of water from the pressurized water source into the ozone treatment tank.

*7* 8. The method of claim *7* including deactuating the booster pump after a predetermined time period has elapsed following the cessation of flow from the pressurized water source to the ozone treatment tank.

- 8* 9. A method of treating animal house water with ozone comprising:
- a) directing water from a pressurized water source to an ozone treatment tank;
  - b) pumping the water from the ozone treatment tank to a booster pump, and boosting the pressure of the water relative to the pressure of the water in the ozone treatment tank;
  - c) directing the water with the boosted pressure from the booster pump to and through an injector and injecting ozone into the passing water to form a water-ozone mixture;
  - d) directing the water-ozone mixture back to the ozone treatment tank; and
  - e) directing the ozone treated water from the ozone treatment tank to an animal watering area where animals drink the ozone treated water.

*9* 10. The method of claim *9*, including adjusting the pressure of the water leaving the booster pump.

1011. The method of claim 10<sup>g</sup> including recirculating a portion of the water leaving the booster pump back to an inlet side of the booster pump so as to effectively vary the pressure of the water leaving the booster pump.

1112. The method of claim 11<sup>h</sup> wherein there is provided a circulation loop between the outlet and inlet of the booster pump and wherein the circulation loop includes an adjustable pressure regulator that permits the flow of water being circulated around the booster pump to be varied.

13. 12<sup>8</sup> The method of claim 9<sup>g</sup> wherein a flow switch is interposed between the ozone treatment tank and the pressurized water source and wherein the booster pump is actuated in response to the actuation of the flow switch which occurs as a result of water being directed from the pressurized water source to the ozone treatment tank.

14. b<sup>12</sup> The method of claim 13<sup>g</sup> wherein an ozone generator is operatively connected to the injector for supplying ozone thereto, and wherein the ozone generator is actuated by the flow switch.

15. The method of claim 9<sup>g</sup> wherein the pressure of the water entering the inlet side of the injector is greater than the pressure of the water contained within the ozone treatment tank while the pressure of the water leaving the

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injector is approximately equal to the pressure of the water contained in the ozone treatment tank.

16. The method of claim 15 wherein the pressure of the water entering the injector is at least approximately 15% greater than the water in the ozone treatment tank.

17. <sup>15</sup> <sub>8</sub> The method of claim 9, including recirculating the water around the booster pump to adjust the pressure of the water directed from the booster pump to the injector.

18. A pressurized ozone water treatment system for animal houses comprising:

- a) a pressurized ozone treatment tank for holding a water-ozone mixture under pressure;
- b) a water inlet associated with the ozone treatment tank for receiving water;
- c) an ozone mixing loop connected to the pressurized ozone treatment tank for circulating water from the ozone treatment tank and mixing ozone therewith and returning the resulting water-ozone mixture to the ozone treatment tank, the ozone mixing loop including:

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- i) an injector for injecting ozone into the water passing through the mixing loop;
  - ii) a booster pump connected in the ozone mixing loop between the ozone treatment tank and the injector for boosting the pressure of the water prior to the water entering the ozone injector; and
- d) an outlet associated with the ozone treatment tank for permitting ozone treated water to be directed from the ozone treatment tank.

19. The pressurized ozone treatment system of claim 18 including a recirculating loop connected around the booster pump for adjusting the pressure of the water directed from the booster pump to the injector.

20. The pressurized ozone treatment system of claim 19 wherein the recirculating loop connected around the booster pump includes a pressure regulator.

21. The pressurized ozone water treatment system of claim 18 including a flow switch for monitoring the flow of water into the ozone treatment tank and wherein the flow switch is operatively connected to the booster pump for actuating the same in response to the flow of water to the ozone treatment tank.

22. The pressurized ozone water treatment system of claim 21 wherein the system further includes an ozone generator operatively coupled to the injector for supplying ozone to the injector, and wherein the flow switch is operatively connected to the ozone generator for actuating the same in response to the flow of water to the ozone treatment tank.

23. The pressurized ozone water treatment system of claim 22 wherein the system includes a timer control that is operative to shut down the booster pump after a predetermined time period has elapsed following the cessation of the flow of water to the ozone treatment tank.

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